NET ZERO CITIES

EU MISSION PLATFORM

CLIMATE NEUTRAL AND SMART CITIES

NetZeroCities has received funding from the H2020 Research and Innovation Programme under grant agreement n°101036519.

WELCOME
The NetZeroCities Community of Practice

EU CITIES MISSION

Shape the future of urban sustainability
NetZeroCities Community of Practice

Funded by the European Union

EU Missions: © European Union, 2024. All rights reserved

NetZeroCities has received funding from the H2020 Research and Innovation Programme under grant agreement n°101036519.

Community of Practice

What is a Community of Practice?

A community of practice (CoP) is a space gathering city officials, experts, and stakeholders from all sectors—energy, mobility, circular economy, construction —to accelerate climate action. Community members engage in learning and collaborating to enhance their knowledge and skills in that area.

Purpose

- Knowledge Sharing and learning
- Peer-to-peer exchange through engagement & collaboration
- Support for Climate Neutrality Goals

How

Many communities of practice rely on face-to-face meetings as well as web-based collaborative environments to communicate, connect and conduct community activities.

NetZeroCities has received funding from the H2020 Research and Innovation Programme under grant agreement n°101036519.

Social Innovation & Urban Mobility: Insights from Turku & Zaragoza

Paula Salo
Professor, Division of Psychology, University of Turku

Felipe Del Busto
Project leader, Sustainable Urbanism team, CIRCE Centro Tecnológico

Sigrid Ehrmann
Head of Horizon Lab, EIT Urban Mobility

This webinar is done in collaboration with CIVITAS Initiative and the ELABORATOR project.

NetZeroCities has received funding from the H2020 Research and Innovation Programme under grant agreement n°101036519.

Agenda

- Icebreaker & Introduction to Social Innovation (5 min)
- Presentation by EIT Urban Mobility (5 min)
- City of Turku (10 min) + Q&A (5 min)
- City of Zaragoza (10 min) + Q&A (5 min)
- Open Q&A and Discussion (20 min)

NetZeroCities has received funding from the H2020 Research and Innovation Programme under grant agreement n°101036519.

Icebreaker & Introduction to social innovation

NetZeroCities has received funding from the H2020 Research and Innovation Programme under grant agreement n°101036519.

Do not edit
How to change the design

What does social innovation mean to you?

ⓘ The Slido app must be installed on every computer you're presenting from

slido

Do not edit
How to change the design

Are you or have you been involved in social innovation projects? What kind?

ⓘ The Slido app must be installed on every computer you're presenting from

slido

What is Social Innovation about?

Social Innovation is ***not*** Social Impact ***or*** Social Entrepreneurship.

…is about changing how society works.
…is about getting people to act ***NOW*** – changing social practices**.**
…is systemic.

Is about the end result (e.g. how many lives were impacted by an initiative or program).

Is about new forms of value creation based on social and economic principles. Social impact is the final goal of social enterprises and profit is essential towards guaranteeing continuous social impact.

NetZeroCities has received funding from the H2020 Research and Innovation Programme under grant agreement n°101036519.

What is Social Innovation?

Fosters inclusive and collaborative approaches to tackling climate challenges, making solutions more effective and rooted in community needs. It is **a bottom-up, collaborative, systemic and human-centered approach to innovation**. In short, it is social in its means and its ends.

Fostering Collective Action

Invites citizens to actively contribute to the mission through lifestyle changes, participation, entrepreneurship

Building Active Community Structures

Creating new structures for communities to act positively for the climate and together (e.g. energy communities)

Collective sense of agency

Creating a more collective vision to development and ways of being/living

Inclusion and Diversity

Reflects demographic diversity and addresses the needs of underrepresented or vulnerable groups.

Meets Social Needs and Overall Wellbeing

Innovations that satisfy "real" unmet needs of society, considering the economic development and overall wellbeing of people and planet at every step

Increased capacity to act

Building new skills and knowledge that allow for broader participation

Improved Policy Quality

Incorporates diverse perspectives and evidence, leading to more effective, transparent, and responsive policies.

Creates new relationships

Engages different actors in new relationships giving space for new collaboration and further innovation and a more vibrant ecosystem

Social Cohesion

Enhances trust in democracy and combats disinformation, fostering unity and civic engagement.

NetZeroCities has received funding from the H2020 Research and Innovation Programme under grant agreement n°101036519.

Social Innovation is about…

… creating collective sense of agency

City Labs

NetZeroCities has received funding from the H2020 Research and Innovation Programme under grant agreement n°101036519.

Social Innovation is about…

… creating new relationships and increasing the capacity to act

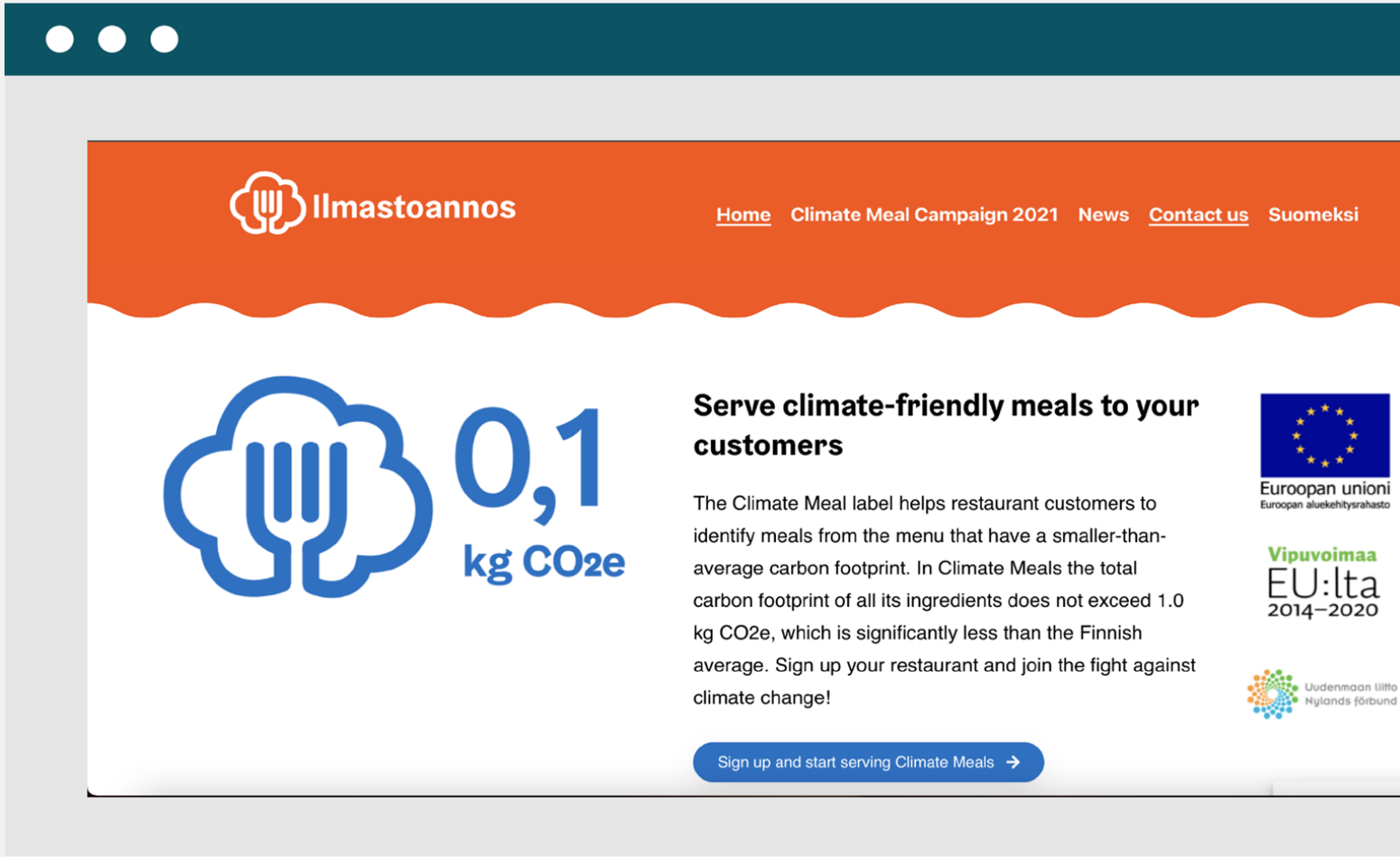
Municipalities as platforms for collective urban action - participatory budgeting

NetZeroCities has received funding from the H2020 Research and Innovation Programme under grant agreement n°101036519.

Social Innovation is about…

… fostering collective action

Climate Labels



NetZeroCities has received funding from the H2020 Research and Innovation Programme under grant agreement n°101036519.

Social Innovation is about…

… Building active community structures and creating new relationships

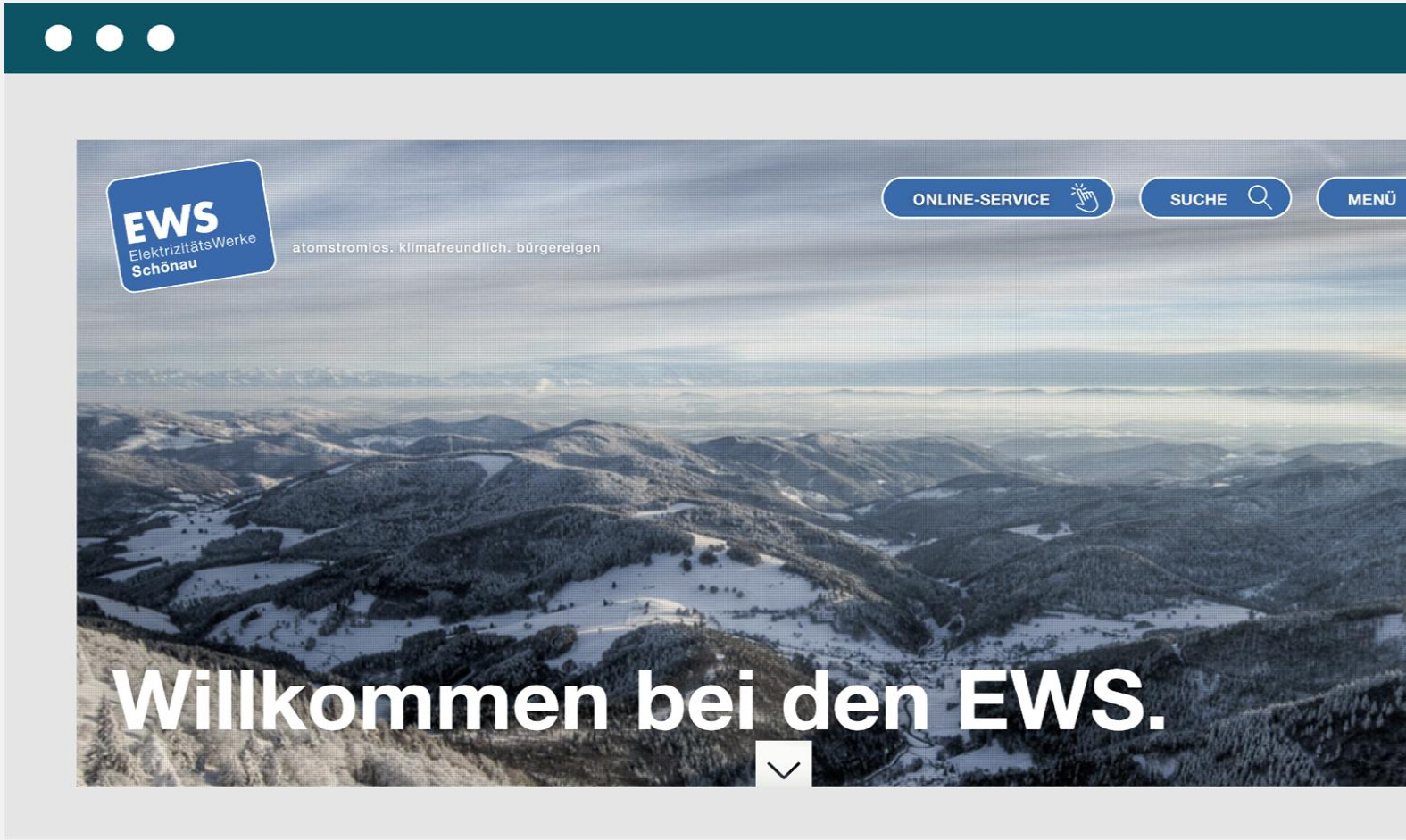
Climate Labels

NetZeroCities has received funding from the H2020 Research and Innovation Programme under grant agreement n°101036519.

Social Innovation is about…

… Building active community structures, creating a collective sense of agency and an increased capacity to act to meet social needs

New Business Models – eg. Energy Communities



NetZeroCities has received funding from the H2020 Research and Innovation Programme under grant agreement n°101036519.

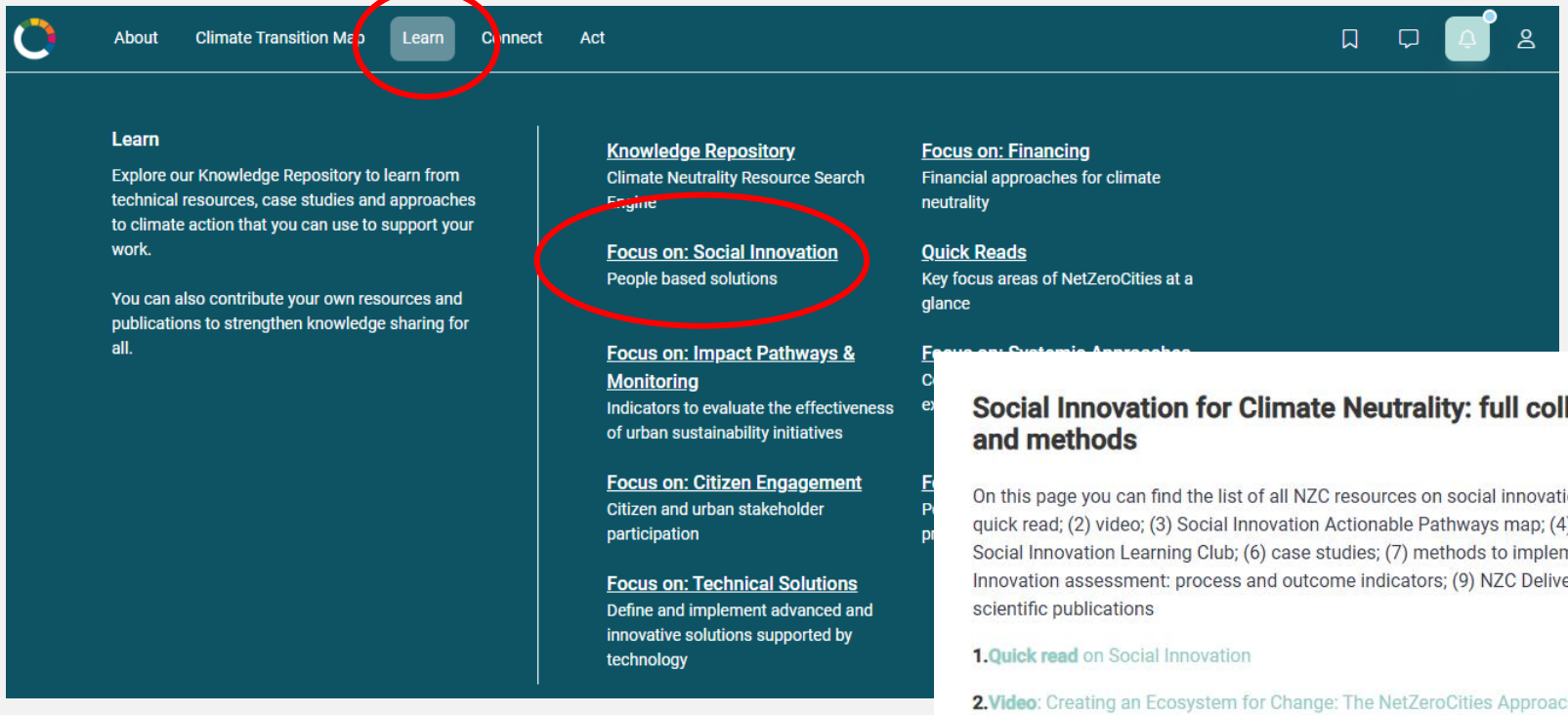
Social Innovation is about…

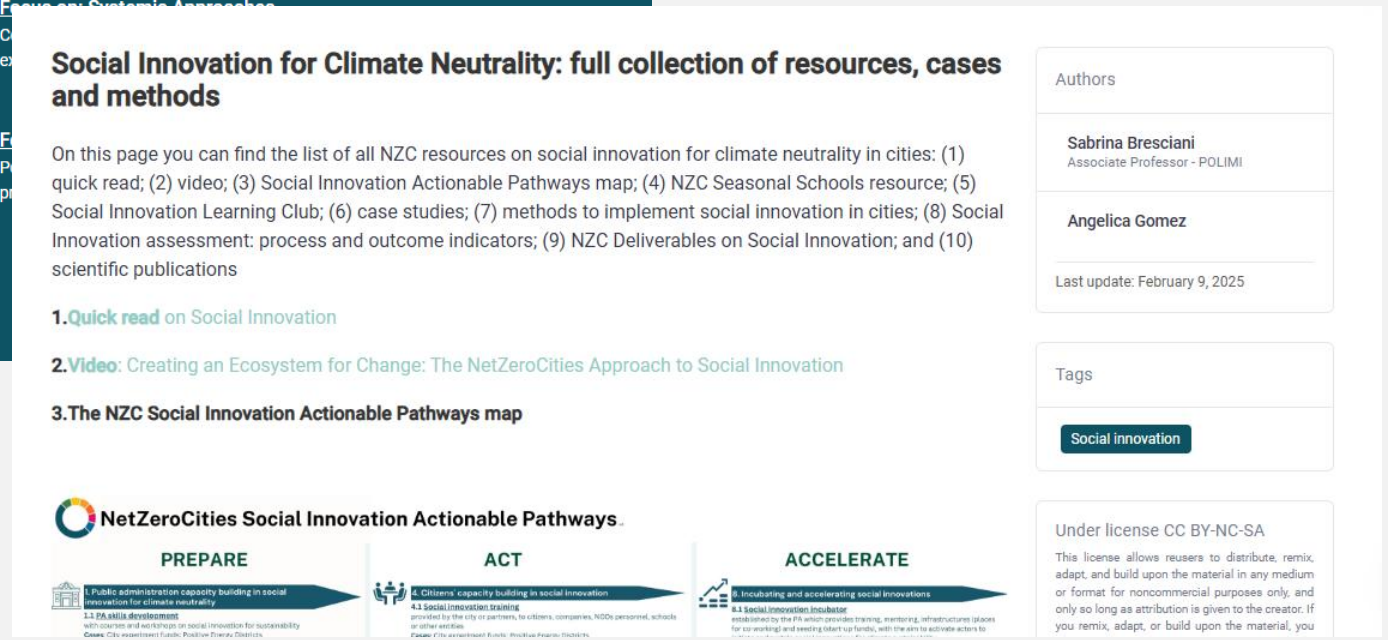
… creating spaces for new relationships and collective action

Superblocks

NetZeroCities has received funding from the H2020 Research and Innovation Programme under grant agreement n°101036519.

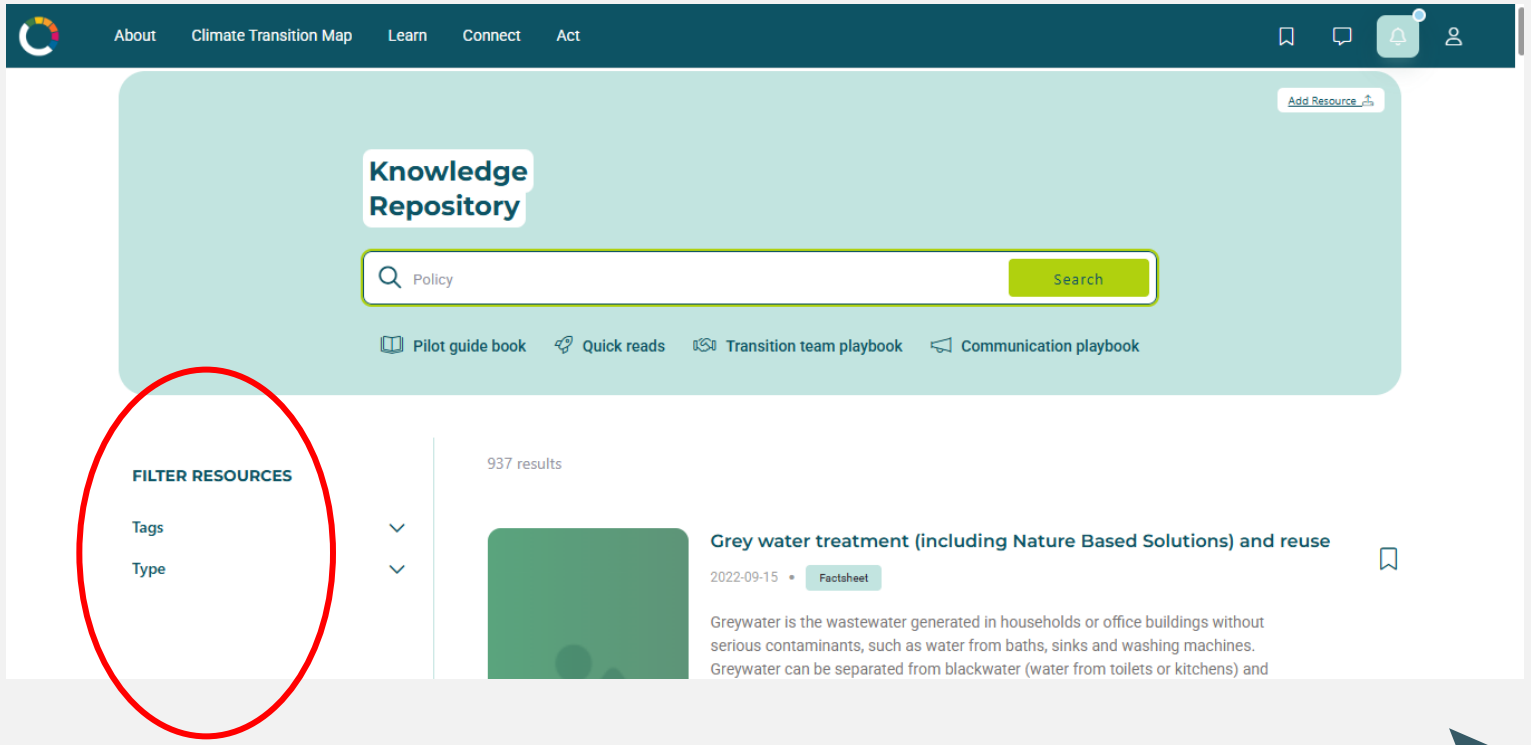
Social Innovation in NZC





NetZeroCities has received funding from the H2020 Research and Innovation Programme under grant agreement n°101036519.

Social Innovation case studies in NZC



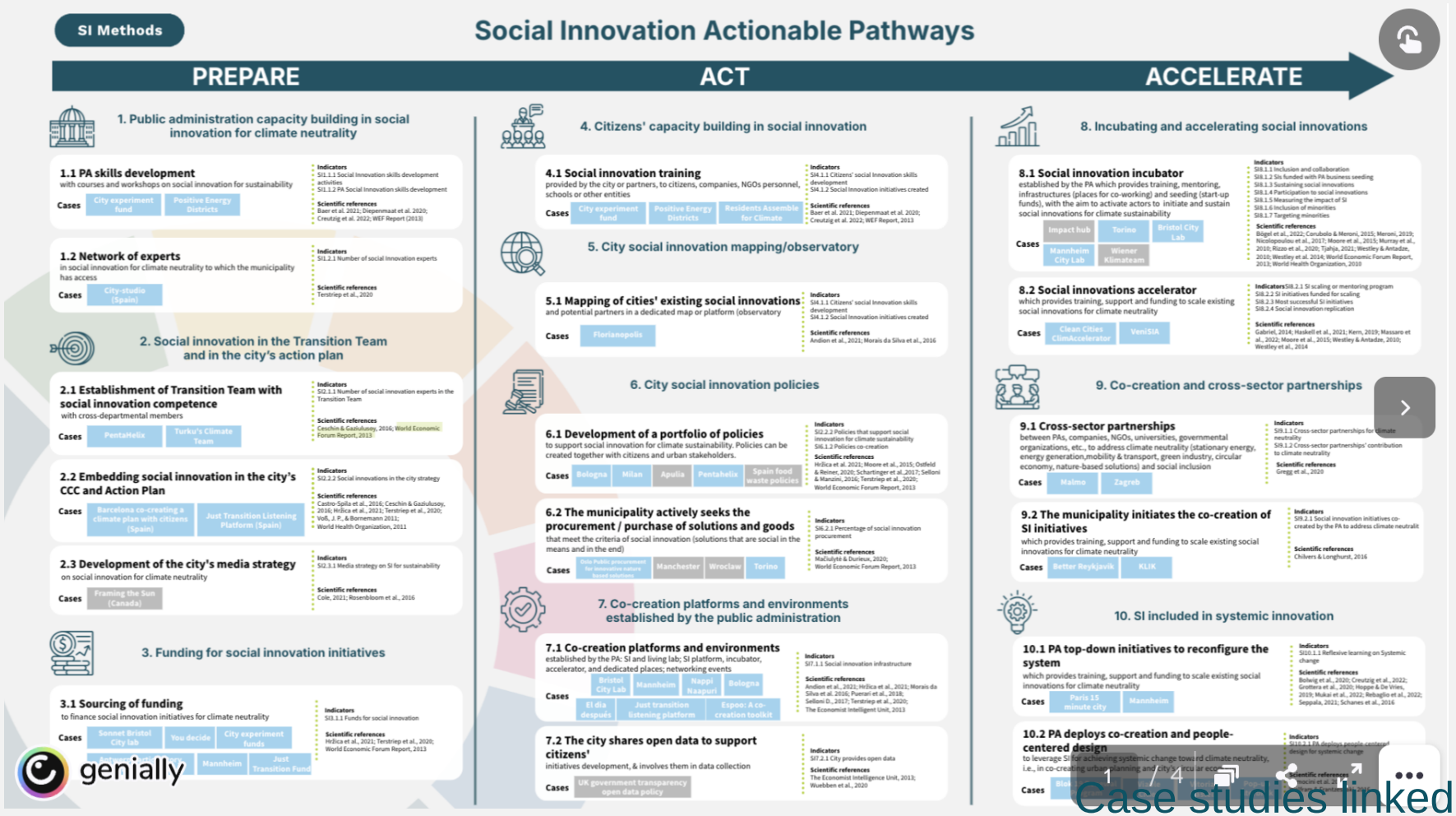
Social innovation 253

Visual case studies 35

Case studies 27

NetZeroCities has received funding from the H2020 Research and Innovation Programme under grant agreement n°101036519.

Social Innovation case studies in NZC



Case studies linked with different actions (link to Genially)

NetZeroCities has received funding from the H2020 Research and Innovation Programme under grant agreement n°101036519.

NZC Mobility Domain Working Group – Mobility Insights

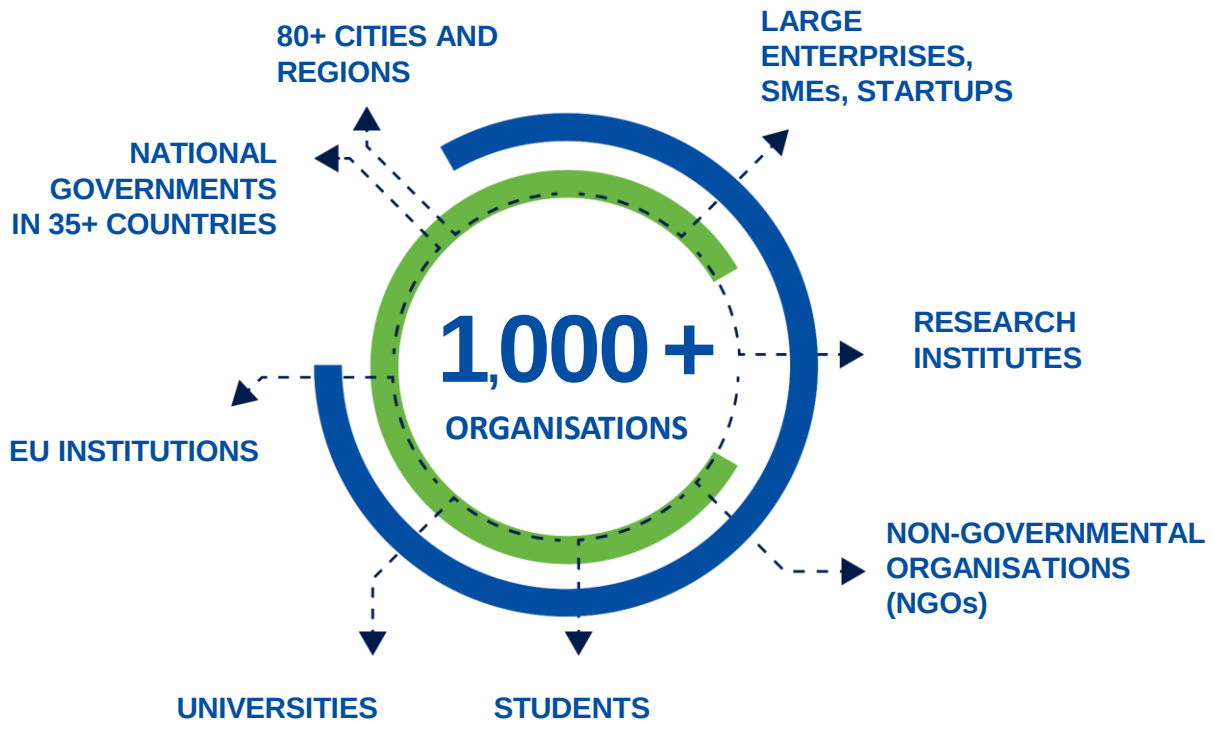
Sigrid Ehrmann, EIT Urban Mobility

29 April 2025

NetZeroCities has received funding from the H2020 Research and Innovation Programme under grant agreement n°101036519.

EIT Urban Mobility

We are the **largest European innovation community** for urban mobility



eit Urban Mobility

Co-funded by the European Union

NZC Mobility Domain Working Group

EIT Urban Mobility (Convenor)

Climate KIC, Bankers without Boundaries, Democratic Society, TNO, Tecnalia, UITP, VTT, Rupprecht Consult

- Direct support for Mission Cities with mobility-related activities
- Support of mobility-related activities across the programme
- Best practice examples and resources (Mission Portal and knowledge repository)
- Collaboration with CIVITAS platform and cluster projects (e.g. Mobility Policy Lab and Policy Brief)

NetZeroCities has received funding from the H2020 Research and Innovation Programme under grant agreement n°101036519.

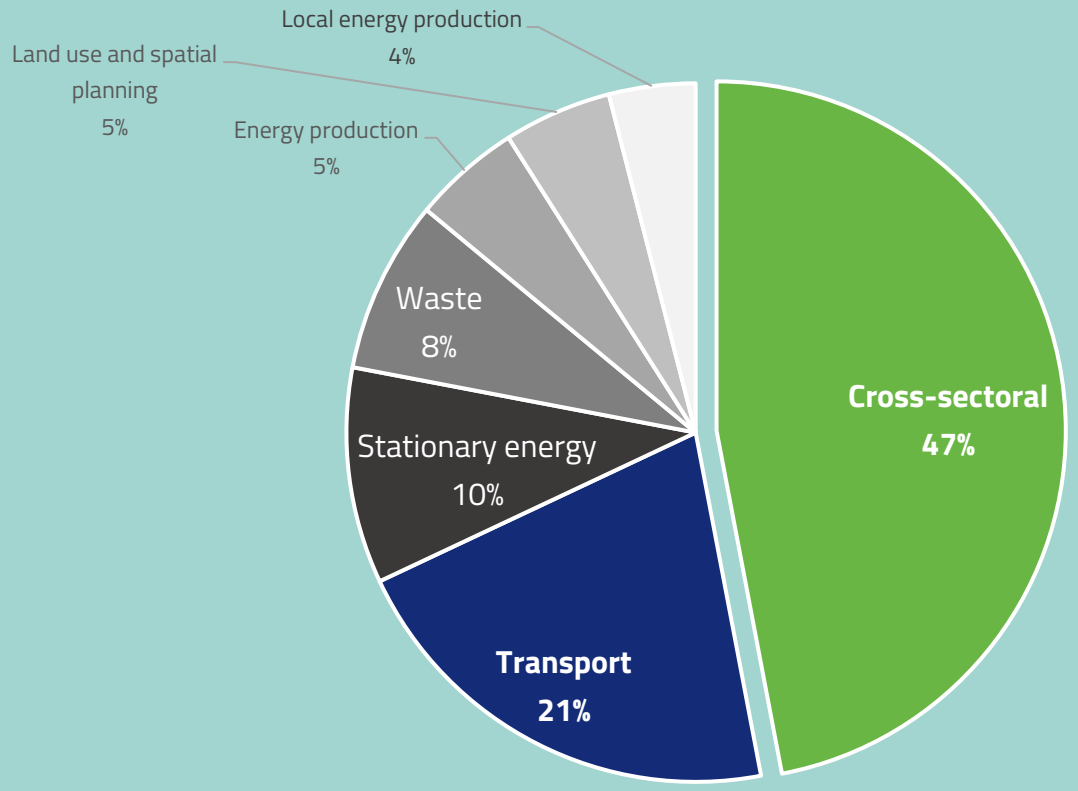
Mission Cities mobility insights - Barriers and mobility measures and activities*

*Analysis of 21 Mission City Climate City Contract (CCCs) Action Plans by Viable Cities, ICLEI & UPM as part of the 'CCC Trend Report' – SGA1 - D1.1, informal review of data by EIT Urban Mobility, 68 NZC Pilot Activities and 26 ECT Activities

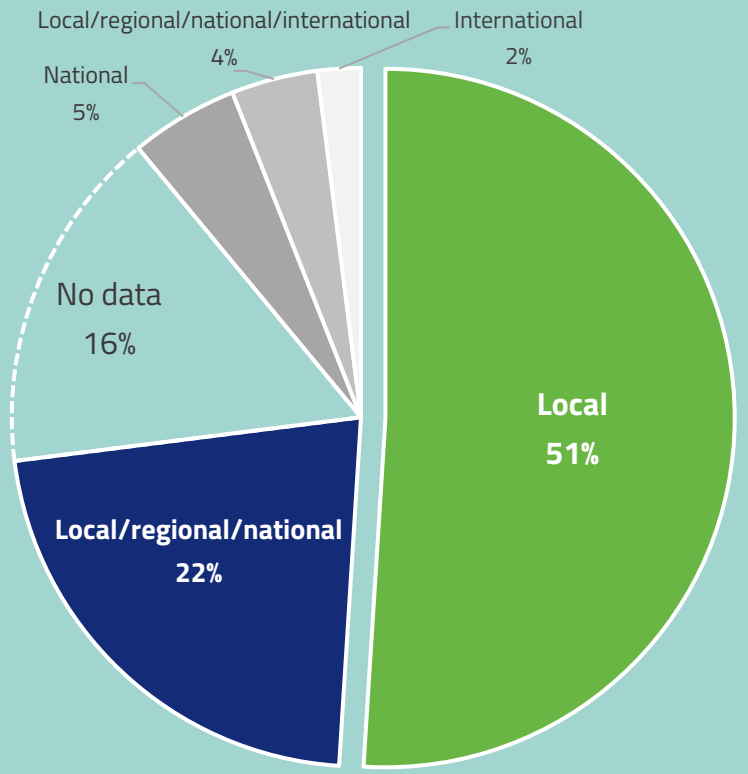
NetZeroCities has received funding from the H2020 Research and Innovation Programme under grant agreement n°101036519.

City barriers by sector

Sectors (global data)



Governance barriers

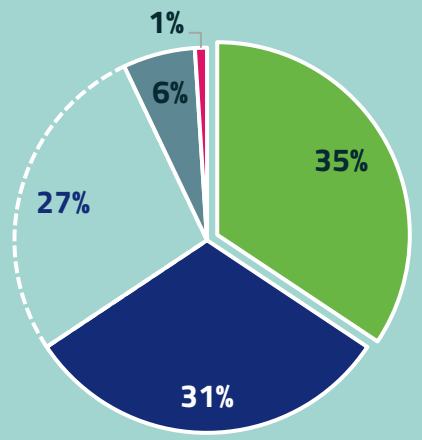


NetZeroCities has received funding from the H2020 Research and Innovation Programme under grant agreement n°101036519.

Transport barriers overview

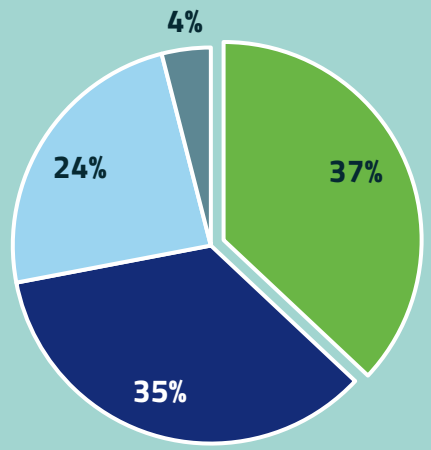
Cities have highlighted **barriers** that pertained to **private transport and public transport** far more than any other area.

Subsector



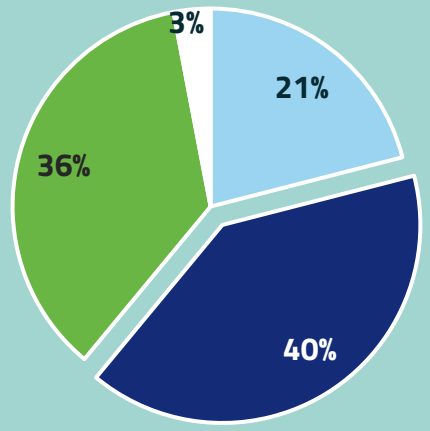
- Private transport
- Public transport
- Blank
- Logistics
- Urban renewal, land development

Type of barrier



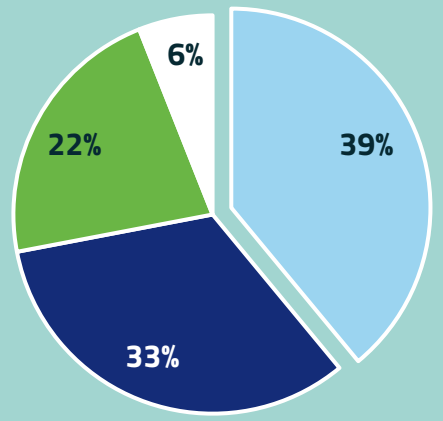
- Institutional
- Infrastructural/tech
- Behavioural
- Other barriers

Public sector transport



- Behavioural
- Infrastructural/tech
- Institutional
- Other barriers

Private sector transport



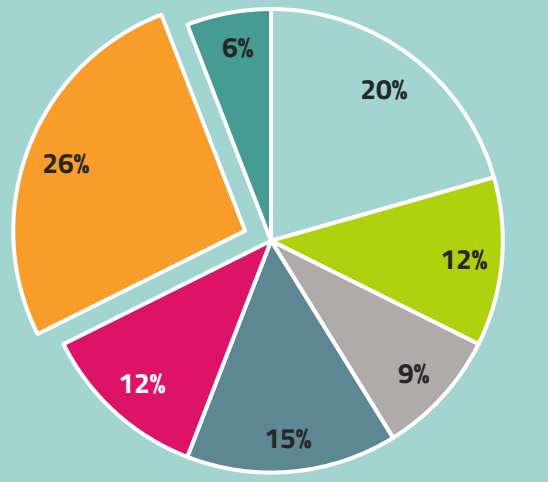
- Behavioural
- Infrastructural/tech
- Institutional
- Other barriers

NetZeroCities has received funding from the H2020 Research and Innovation Programme under grant agreement n°101036519.

Pilot Cities Programme

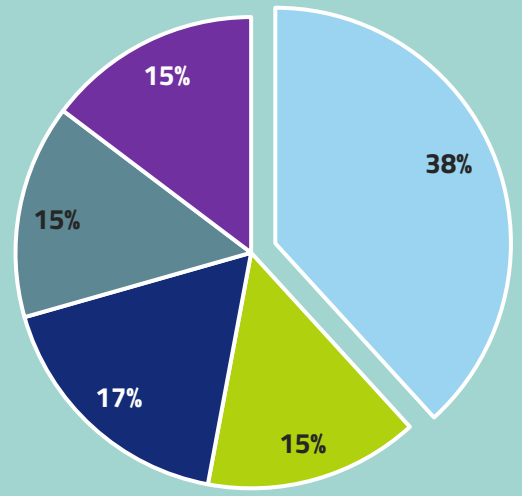
Overview of types of mobility and types of action through analysis of **68 Pilot Cities Activities**

Pilot Activities - Type of mobility



- Active mobility
- Electric Vehicles
- Logistics
- Multimodality
- Private vehicles
- Public Transport
- Shared mobility

Pilot Activities - Type of Action



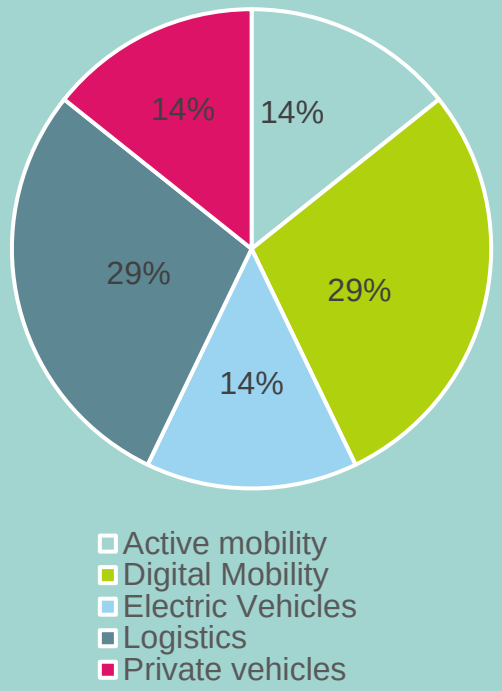
- Behavioral & Economic Incentives
- Electrification & Sustainable Mobility
- Infrastructure & Public Space Redesign
- Mobility Management & Optimization
- Regulation & Policy Frameworks

NetZeroCities has received funding from the H2020 Research and Innovation Programme under grant agreement n°101036519.

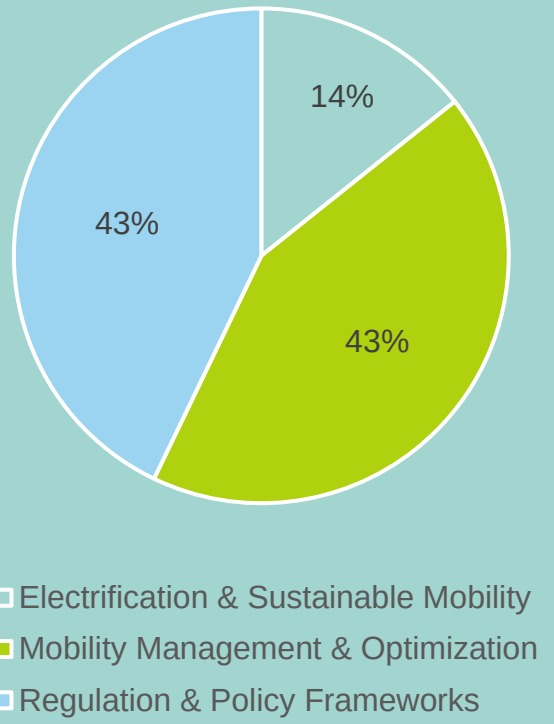
Enabling City Transformation

Overview of types of mobility and types of action through analysis of **26 ECT proposals**

ECT proposals - Type of mobility



ECT proposals - Type of actions



NetZeroCities has received funding from the H2020 Research and Innovation Programme under grant agreement n°101036519.

Nudging 1.5 degree life in Turku, Finland

E-bike pilot, co-creation, and nudge playbook

Paula Salo, Professor
Department of Psychology
University of Turku, Finland

UNIVERSITY OF TURKU

What is nudge?

A nudge is
any aspect of the choice architecture that alters people´s behaviour in a predictable way without forbidding any options or significantly changing economic incentives. To count as a mere nudge, the intervention must be easy and cheap to avoid.

Thaler & Sunstein (2008)

E-bike pilot

- Car service customers were offered a free e-bike trial instead of a courtesy car
- A critical moment in typical car-use behavior (when one’s own car is unavailable) to encourage trying a new, more sustainable mode of transport
- September – November 2024

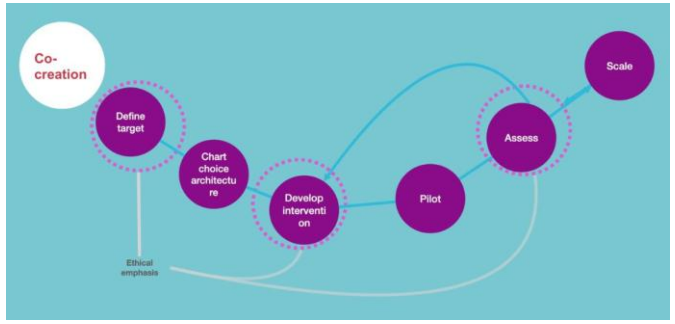
E-bike pilot

- Top 3 reasons to choose e-bike
  1. Wanted to try out an e-bike **78%**
  2. E-bike seemed most convenient option **78%**
  3. Trial was free **44%**

- User satisfaction
  - **66%** were satisfied
  - **33%** were very satisfied

- Experiences
  - The service was popular
  - Impact evaluation is difficult
  - Unexpected outcomes – The experiment even opened up a business opportunity for a competing bike rental company

Co-creation



climate nudge

Define the problem	• What is the intervention aiming to achieve? • What kind of behavior do you want to change, and what do you want people to do instead? • Who is the target group?
Understand the choice architecture	• Gather information from various sources to understand the target group's operational environment and decision-making situations. • What are the critical decision points related to the target behavior?
Develop the intervention options	• Understand how and why a particular measure affects behavior. • What are the key factors influencing behavior and how to modify those? • What ethical challenges are relevant for the intervention?
Pilot the intervention	• Test whether intervention is affordable, easily implementable in practice, and considered meaningful and acceptable by both the target group and the implementers. • What are recruitment and dropout rates?
Evaluate	• Are the evaluation instruments acceptable, feasible, and reliable? • Is it possible for the intervention to achieve the desired effects? • By what mechanisms, on whom, and under what conditions the intervention does or does not work?
Scale up the interventions	• Prepare a careful and comprehensive implementation planning and evaluation process • Collaborate with the staff of the operational environments targeted by the intervention

CO-CREATION PLAYBOOK

Nudges and other behavioural interventions for sustainable mobility

1.5 degree city project

NET ZERO CITIES

EU MISSION PLATFORM | CLIMATE NEUTRAL AND SMART CITIES

TURUN YLIOPISTO

CITY OF TURKU

Contents

Jump to the content by clicking it!

What is Co-creation Playbook 4

What is nudging 5
Nudging in choice architecture
Design, implementation and evaluating of intervention
How to encourage behavior change?
How to nudge ethically?
What does science tell us about public transportation nudges?
Is nudging a useful method for behavior change?

Nudges for public transportation 17
Why promote public transporation
How can behavioral science to be used to promote sustainable transportation?

Nudge co-creation examples 22
Co-creating public transportation nudges for senior citizens

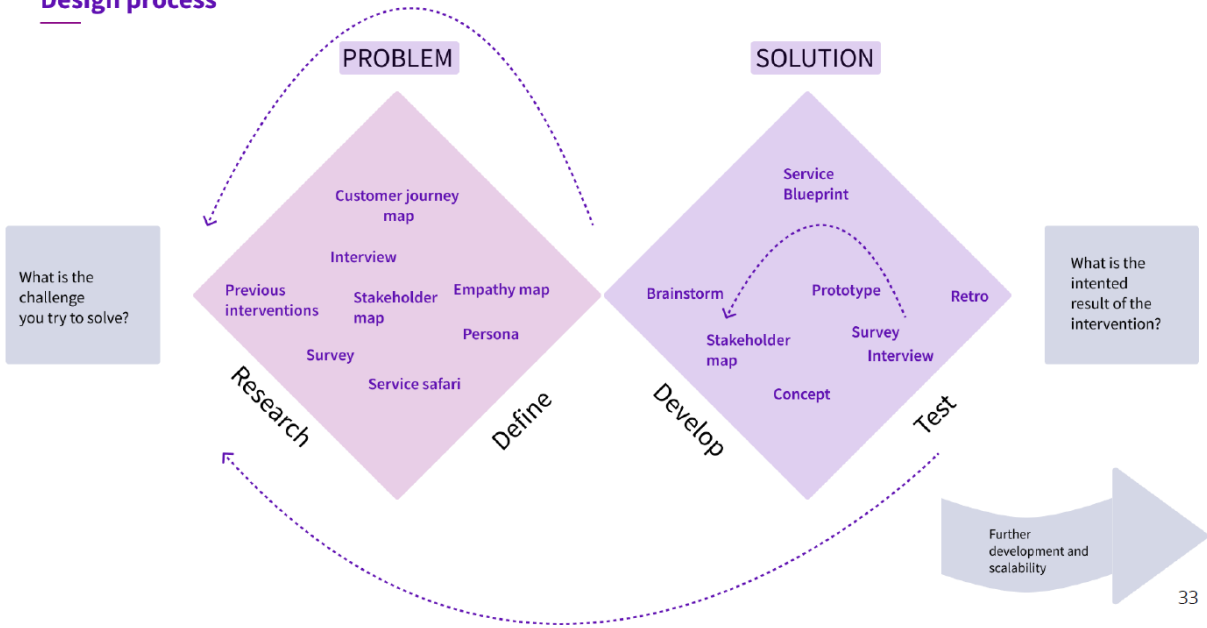
Design your own nudges 30
How to utilize design thinking for nudging?
Design thinking methods and tools

Conclusion 65

Literature list 67

climate nudge

Design process



Persona

Persona type: Leena, 77 years, lives near Turku city centre

Name: Kaarina

Age: 77

Family: widow, lives alone

Occupation: pensioner, previosly nurse in the hospital

Internal trigger: Wants to stay active, meet people and to join the events in the home city.

Statement/behaviour:

- "I wish I had other reasons to go out than just to meet a doctor"
- "Having a cup of coffee with friends makes my day"

What I am like:

- Widow
- Some health issues that affect the ability to active movement
- Feeling lonely
- Interested in events and encountering other people
- Wants to stay active, but needs some nudging and company

What do I like to do in my free time:

- Daily household chores
- Phone calls to friends and family
- Reading (news, magazines and books)
- Theater and concert
- Senior activities organized by city or congregation

Where to reach me:

- Notice boards of libraries
- Congregations
- Activities (clubs, hobbies) for elderly

What makes me involved:

- Possibility to go to meeting with the bus
- Avoiding problems with car parking
- Going to take care of some things, like visiting the doctor downtown
- Frequent routes to the city centre
- Organised events, for example activities together with children

Challenges to engagement:

- During winter, slippery roads and snow are challenging
- Not willing to go out in the evenings due safety reasons
- Not sure if there is room in the bus when going with a walker
- Needs to take a rest, but there is not so many benches on the bus stops

Reasons to use the service where nudging happens:

- With one ticket is possible to travel to neighbour cities
- Going to the city centre is more pleasant with the bus than with the own car
- In summertime, visiting Ruissalo, an island with parks and cafes

Reasons not use the service:

- Not knowing which are the right buses and where to get out
- How and where to download the travel card
- Weather conditions make walking to the bus stop dangerous
- Distance from home to the bus stop is too long
- Changing the bus feels uncomfortable
- If using the bus requires using app or internet

Empathy map

Persona type: Leena, elderly person living in Kaarina, Finland

Think and feel

- Wishes more reasons to go out and meet people
- Is wary to leave home during winter and evenings
- Considers hometown a good place to live

Hear

- Local newspaper
- Uses local library once a month
- Listens to radio and watches TV
- Watches news and
- Is having coffee with a couple of neighbours at each other's houses

See

- Lives in a small town in an apartment house
- Goes for a walk with a neighbor
- Goes to Turku to theatre or concerts
- Children and grandchildren live in another cities

Say and do

- Appreciates local volunteer events
- Hopes for more community feeling
- Afraid of loosing independency
- Walking is important
- Uses a walking stick

Pain

- Cycles and scooters are sometimes scary
- Lack for accessible routes to walk during winter

Gain

- Bus ticket is valid 90 minutes
- Knowing the routes she usually uses

Nudge concept

Service:

Gamified lesson for elementary school:

Engagement to traveling with local bus and learning the traveling practices.

Problem statement

Define the problem you aim to influence

- South-West Finland's local bus company and schools have an established and well working practice: interactive and playful local bus lessons for the first grade pupils.
- However, things learned are forgotten if they are not reviewed, so 4th graders in elementary school need review.
- In the background, we have the fact that people often travel to school by car, even though the journey could easily be made by bus, on foot or by bike.

Target behaviour

What and who's behaviour you aim to nudge

- The aim is to provide schoolchildren (10-11 years old) with information about using the bus and sustainable mobility.
- Since the game is played at school, it may also have an impact on teachers, as well as on the pupils' families through a possible homework assignment.
- The goal is to lower the threshold for adopting the use of public transport.

Behavioural barriers

What obstacles prevent the target behaviour

- Pupils: parents are primarily responsible for their children's transportation habits. Children may have fears about public transportation and are unfamiliar with the practices.
- Teachers: Adults' travel habits are influenced by adopted routines, which take time to change.
- Parents: Adults' travel habits are influenced by established routines that take time to change. Parents may be hesitant to let their schoolchildren ride the bus if they have no experience of their own.

Nudge mechanism

What behavioural ideas is the nudge based on

- Pupils: Gamification is used to highlight the benefits of public transport and good travel practices in an age-appropriate and fun way.
- Teachers: Gamification helps to highlight the benefits of public transport and good travel practices. The game is easy to implement in school lessons and supports a variety of learning objectives.
- Pupils' families: through a possible homework assignment, information about the benefits and ease of public transport will also be spread to families (for example, a joint route search or travel assignment).

Ethics

Is the nudge ethical and transparent

- The game's players and teachers are informed about what the game encourages, so it is transparent.
- The game is designed to be as equal and accessible as possible.
- Information security issues are taken into account when planning the tasks.
- The content does not deviate from the approved educational content for comprehensive schools in terms of social acceptability.
- Playing the game is voluntary, and the class teacher decides whether to play based on his or her own professional skills.
- During the game's design phase, the game is tested with teachers and students, so it supports user-centricity.

Expected outcome

How to define success and measure it

- Success is recognized by the fact that people want to play the game, find it interesting and useful. In addition, the willingness of players and possibly their families to use public transportation improves.
- Success is measured by the number of players, which indicates teacher approval.
- At the end of the game, players are asked for feedback on their gaming experience in a child-oriented manner.

climate nudge

Thank You!

Paula Salo, professor, University of Turku
paula.salo@utu.fi

ELABORATOR

ZARAGOZA LIGHTHOUSE

Felipe Del Busto

circe
TECHNOLOGY CENTRE

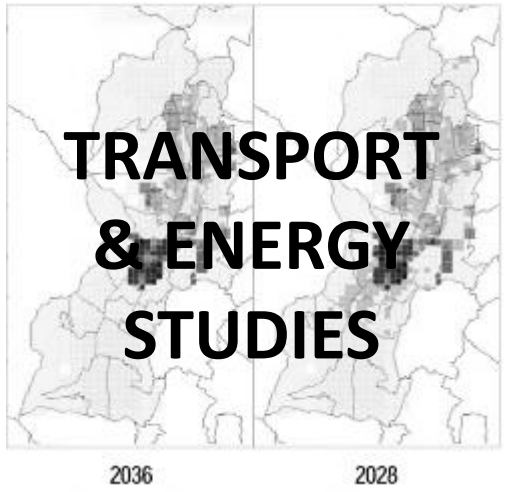
Co-funded by the European Union

SUSTAINABLE MOBILITY

2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024 2025

URBAN MOBILITY PLANNING

TRANSPORT & ENERGY STUDIES



SMART MOBILITY TOOLS

TRAINING & DISSEMINATION

ELABORATOR
Designing sustainable urban mobility towards climate-neutral cities
Co-funded by the European Union

Ambition

Holistically plan and deploy innovations to foster urban mobility in our cities that are **safe, inclusive and sustainable**

Co-create measures with different stakeholders to ensure no one is left behind in our mission towards **climate neutrality**

Demonstrate the innovations in diverse **European cities** with the definition and application of a **twinning methodology**

ELABORATOR

Co-funded by the European Union

Approach

6 Lighthouse cities will pilot key interventions.

They will be specifically co-designed and co-created with identified vulnerable to exclusion user groups, local authorities and other relevant stakeholders.

6 Follower cities will learn and exchange with the Lighthouse cities to plan and implement their own sustainable solutions.

Co-funded by the European Union

Cities

LIGHTHOUSES

Copenhague | DK

Helsinki | FI

Milán | IT

Zaragoza | ES

Issy-les-Moulineaux | FR

Trikala | GR

FOLLOWERS

Velenje | SI

Lund | SE

Liberec | CZ

Krusevac | RS

Ioannina | GR

Split | HR

CIVITAS – UPSD Cluster

CIVITAS

Sustainable and Smart Mobility for All

- A flagship initiative of the European Commission implementing projects to achieve ambitious mobility goals
- A network of 380+ local authorities committed to sustainable urban mobility

It does…

- Monitor, extract, and communicate project results
- Disseminate the state of the art of urban mobility
- Enhance operational structures
- Improve collaboration groups
- Guarantee innovation replication via deployment planning
- Promote solution-specific learning and skills development

It does *not*…

- Fund or implement mobility measures on-the-ground

ELABORATOR

Co-funded by the European Union

ELABORATOR Inclusion Plan

ELABORATOR Co-creation Playbook

Co-funded by the European Union

ELABORATOR

ZARAGOZA LIGHTHOUSE

Co-funded by the European Union

5 Kms radius

673,010 (2022)

Modal share 2023 (% of total km)*

Road network

- Highways (120 km/h)
- Mid speed (50 km/h)
- Low speed (30 km/h)

* Google Environmental Insights

ZARAGOZA LH

New Romareda Stadium

- Strategic city project.
- Highly(-est) dense school district.
- LH partners:

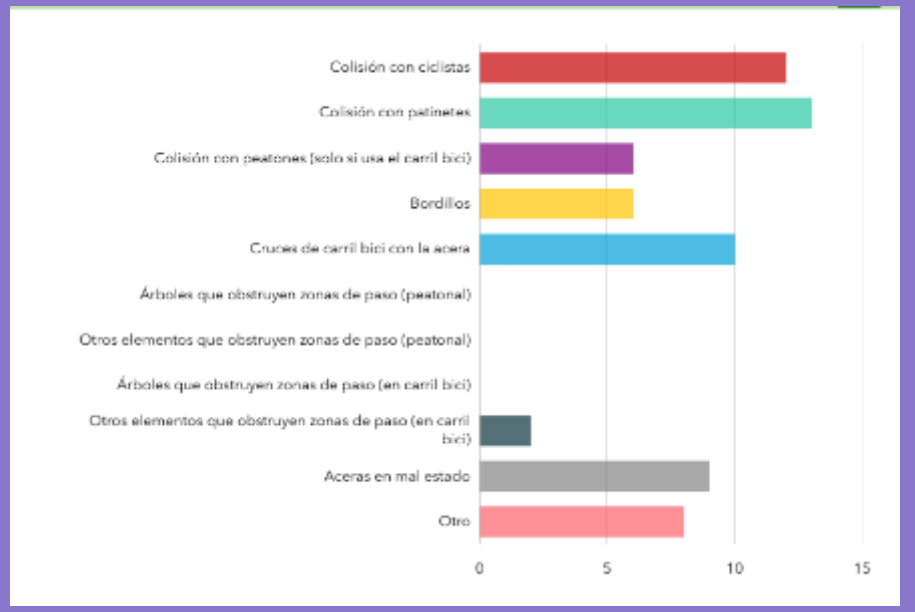
ELABORATOR

Co-funded by the European Union

Tactical Urbanism around schools

Co-funded by the European Union

Pedestrian areas at the stadium



Co-funded by the European Union

Traffic management at Hospital

Co-funded by the European Union

Safe bike parking

Co-funded by
the European Union

ELABORATOR

Thank you

Name: Felipe Del Busto

Organization: CIRCE technology center

Contact details: dfbusto@fcirce.es

ELABORATOR contributes to achieving the aim of CIVITAS initiatives and the goals of the EU Mission: Climate-Neutral and Smart Cities

Co-funded by the European Union

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or CINEA. Neither the European Union nor the granting authority can be held responsible for them.

Do not edit
How to change the design

What’s one key insight or idea that resonated with you?

ⓘ The Slido app must be installed on every computer you’re presenting from

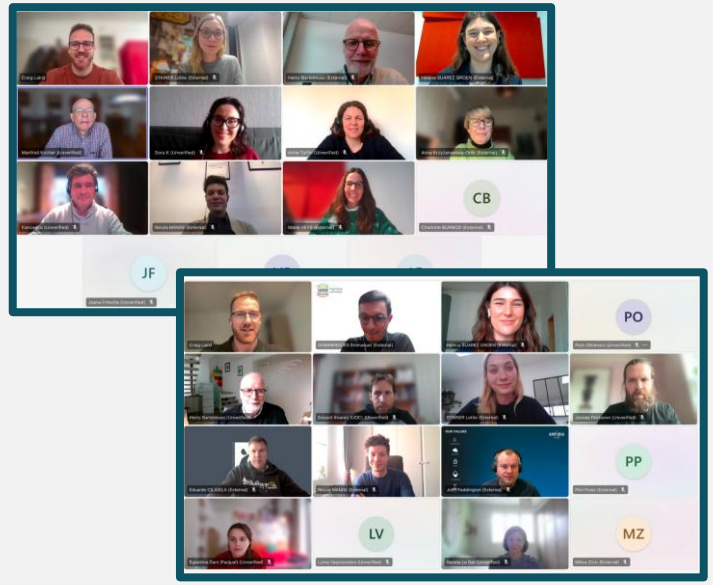
slido

Q&A

NetZeroCities has received funding from the H2020 Research and Innovation Programme under grant agreement n°101036519.

Get Involved!

Supporting the EU Mission
for “Climate Neutral and Smart Cities by 2030”



Share your resources, tools publications and city case studies to support **climate-neutral transformation** in cities

Connect with other experts & cities and explore opportunities to collaborate and drive impact

React to call for tenders & help cities build capabilities and ways of working to advance **systemic change** using innovation

Organize the next city data webinar with us!

NetZeroCities has received funding from the H2020 Research and Innovation Programme under grant agreement n°101036519.

Organize the next city data webinar with us!

Stay Connected!

Retrofit in Real Life: Challenges, Champions, and City Solutions

Date: June 10th
Time: 10:00-11:30

REGISTER NOW!

Exploring the complex landscape of home and infrastructure retrofitting.

The journey of retrofitting: perspectives of home-owners, industry players and public bodies.

Do you have a city case study to present?
Contact: helena.suarezgroen@lgi.earth

NetZeroCities has received funding from the H2020 Research and Innovation Programme under grant agreement n°101036519.

Social Innovation: People-Based Solutions for Climate-Neutral Cities

Upcoming webinars

Highlights from the Pilot Cities program

Date: June 17th 10:00 – 11:00

- **Registration open!**

Social innovation and behavioral change

Date: September TBC

NetZeroCities has received funding from the H2020 Research and Innovation Programme under grant agreement n°101036519.

THANK YOU!

Hope you enjoyed the webinar, and are excited to be part of this community to drive climate neutrality!

NetZeroCities has received funding from the H2020 Research and Innovation Programme under grant agreement n°101036519.